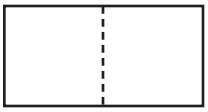
Horizons

Math

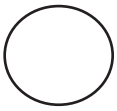
5

Symmetry



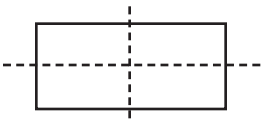
Fold a piece of paper in half.

Cut out a design. Do not cut down the fold line.

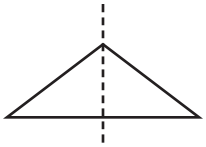


Unfold the cut out design.

You have just made a symmetric figure. A symmetric figure can be folded so that both sides match. The fold line is called the line of symmetry. Some shapes have several lines of symmetry, and some shapes have no lines of symmetry.



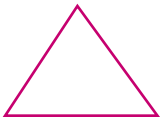
two lines of symmetry

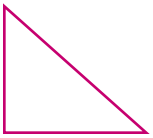


one line of symmetry

no lines of symmetry

1 Draw the lines of symmetry for each object.





Many companies use one or more lines of symmetry when creating their logos. Create a logo for yourself using at least one line of symmetry. You might want to use letters in your name or draw a design of an activity that you enjoy.

2 There are examples of parallel, perpendicular, and intersecting lines all around you. Below each description, write three examples that you can find in your room.

Parallel	**Perpendicular**	**Intersecting**
_____	_____	_____
_____	_____	_____
_____	_____	_____

3 The table below is missing information. Fill in the missing facts. If you need help, refer to Lesson 71.

Geometry Terms	Geometry in Pictures	Geometry in Symbols	Geometry in words
Point	K	K	
Line	D E		Line DE
	S T	$\overline{ST}$	Line Segment ST
Ray		$\overrightarrow{XY}$	Ray XY Always name the endpoint first.
Plane	R	Plane R	

4 Match.

B.C.	1,000 years
A.D.	Before Christ
decade	100 years
century	Anno Domini (in the year of our Lord)
millennium	10 years

5 Divide.

$8\overline{)59}$ $6\overline{)38}$ $9\overline{)88}$ $4\overline{)39}$ $5\overline{)17}$

6 In the puzzle there are at least 20 numbers that when rounded become 100. Can you find them all? You may find numbers horizontally and vertically, but not diagonally. Circle the numbers in the puzzle and write them on the lines provided. Some numbers may appear more than once.

1	2	1	9	9
3	8	4	2	1
8	7	9	0	3
1	1	1	9	3
0	0	0	8	7

____ ____ ____ ____
____ ____ ____ ____
____ ____ ____ ____
____ ____ ____ ____
____ ____ ____ ____

7 Write subtraction problems with the answers given. There are many possible answers. The first one has been done for you.

$\begin{array}{r} 10 \\ -\ 2 \\ \hline 8 \end{array}$ $\begin{array}{r} \_\_ \\ -\ \_\_ \\ \hline 7 \end{array}$ $\begin{array}{r} \_\_ \\ -\ \_\_ \\ \hline 3 \end{array}$ $\begin{array}{r} \_\_ \\ -\ \_\_ \\ \hline 4 \end{array}$ $\begin{array}{r} \_\_ \\ -\ \_\_ \\ \hline 1 \end{array}$ $\begin{array}{r} \_\_ \\ -\ \_\_ \\ \hline 6 \end{array}$

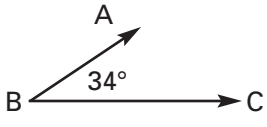
Congruent Segments

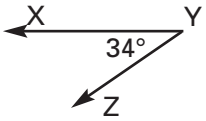
Congruent Segments, Angles, and Polygons

Two segments that have the same length are congruent to each other. The symbol to express congruency is ≅ .

The line segment AB is congruent to line segment CD. We write $\overline{AB} \cong \overline{CD}$.

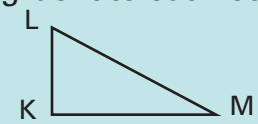
Two angles that have the same measure are congruent to each other.

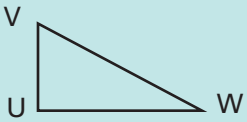




Angle ABC is congruent to angle XYZ. We write: ∠ABC ≅ ∠XYZ

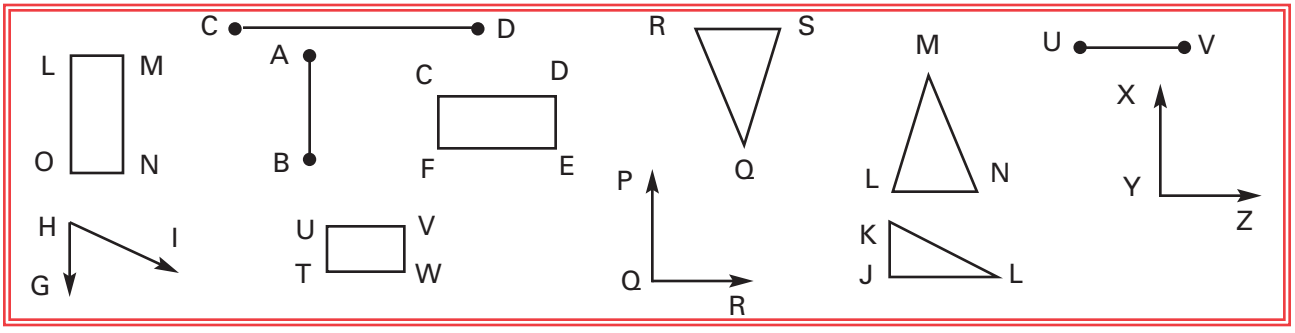
Two polygons that have congruent matching angles and congruent matching sides are congruent to each other.





Triangle KLM is congruent to triangle UVW. We write: △ KLM ≅ △UVW

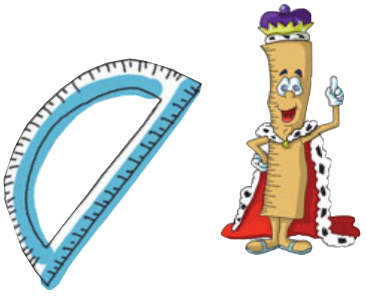
1 Look at the line segments, angles, and polygons in the data bank and identify the ones that are congruent. You may need a ruler or protractor to help.



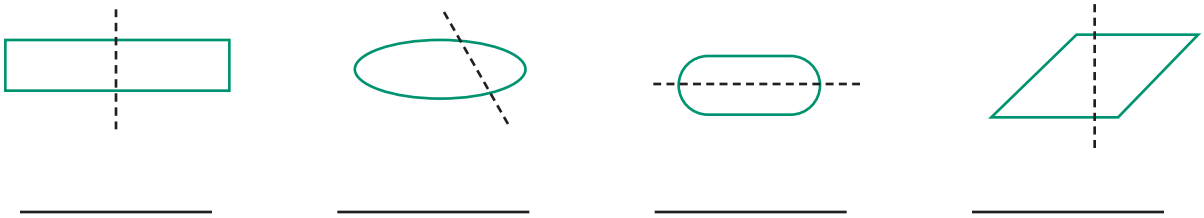
Name one pair of congruent line segments.

Name one pair of congruent angles.

Name two pair of congruent polygons.



2 Is the dotted line a line of symmetry? Write yes or no.

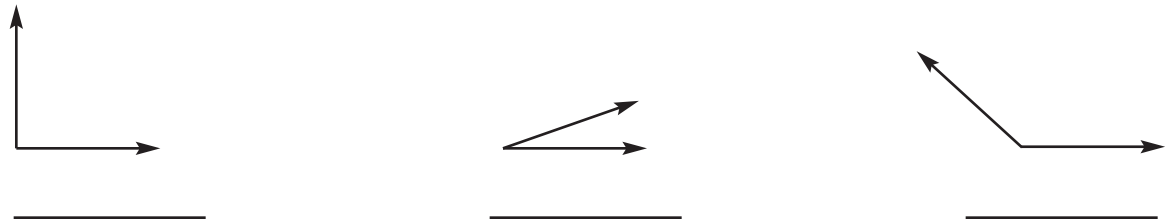


_____ _____ _____ _____

How many lines of symmetry does each letter have?

A	B	C	E	H	X
___	___	___	___	___	___

3 Write obtuse, acute or right angle.

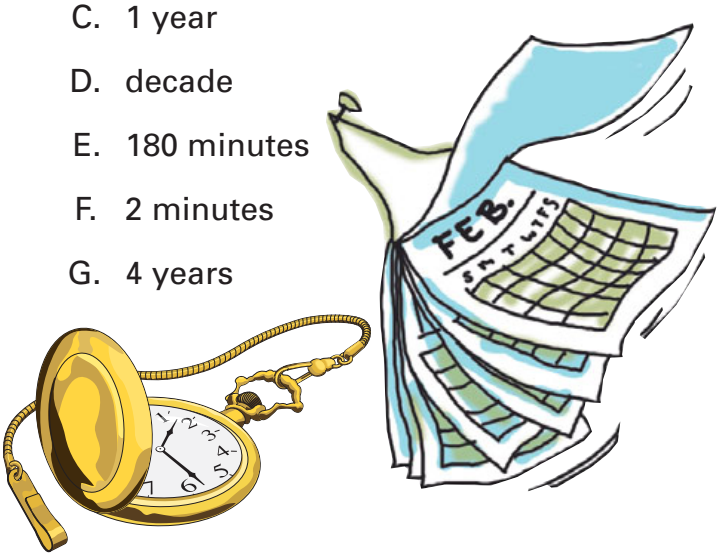


_____ _____ _____

4 Match.

_____ 3 hours
_____ 48 months
_____ 120 seconds
_____ 104 weeks
_____ 100 years
_____ 365 days
_____ 10 years

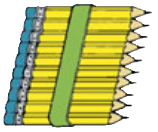
A. century
B. 2 years
C. 1 year
D. decade
E. 180 minutes
F. 2 minutes
G. 4 years



5

1. Candy bars are 75 cents a piece. If Brian has $6.75, how many candy bars can he buy?

2. Mrs. Taylor bought 25 pencils for $1.25. How much did the pencils cost a piece?

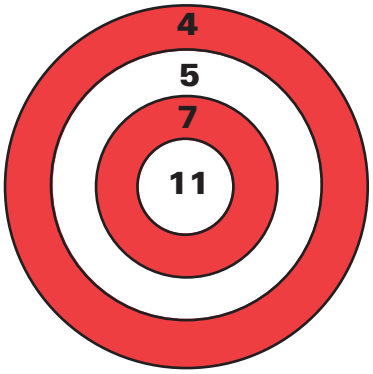


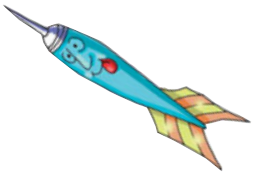
3. Trixie, Pauline, and Becky earned $22.50 for babysitting. If they split the amount three ways, how much will each girl receive?

4. Brookwood Elementary had a talent show put on by their teachers. The students came to see their teachers by the hundreds. The talent show earned the school $570.00. If they wanted to divide their profits equally between three charities, how much would each charity receive?

6

Use the dart board to answer the questions below.





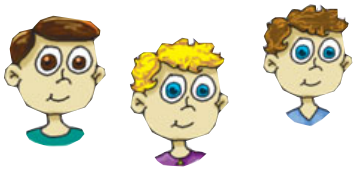
1. Steve threw three darts. Each dart hit a different ring for a total of 22 points. Where did each dart land?

2. Andrew threw three darts and they all landed on the same ring for a total of 21 points. Where did the darts land?

3. Peter had the highest score of all three boys. He had 23 points. Where did his three darts land?

4. What is the lowest score possible for three darts?

5. What is the highest score possible for three darts?



Similar Figures

Similar polygons and figures have the same shape, but not necessarily the same size. We use the symbol ~ to tell that two shapes are similar.

Triangle ABC is similar to triangle XYZ. We write: △ ABC ~ △ XYZ

Figure A is similar to figure B.

1 Use the dots below to help you draw a figure that is similar to the one drawn. Also, draw a figure that is congruent to the figure shown.